over or north of the North Sea. The average velocity of north Atlantic storms in January is about 22 statute miles per hour.

The month opened with high pressure east of the 45th meridian and low pressure over Newfoundland and the Grand Banks. The pressure continued high over mid-ocean between the 45th and 55th parallels until the 13th, after which the high area settled southward to its usual position south of the 40th parallel. Over the British Isles the pressure continued high until the 4th; from the 4th to 24th the pressure continued low and unsettled weather prevailed over the eastern part of the ocean, which condition was followed by high pressure from the 25th to the close of the month. The pressure continued low between the 50th and 70th meridians until the 7th; from the 8th to 18th high pressure prevailed in that region; and from the 19th until the close of the month low pressure and unsettled weather obtained over and west of Newfoundland and the Grand Banks.

On the 1st a storm, with pressure about 29.70 (754) and east gales of force 10, was central south of Newfoundland, whence it passed southeastward to about the 40th parallel by the 2d, with an apparent increase of energy, and on the 3d and 4th was central west of the Azores. By the 5th this storm had apparently passed northwestward and united with low area I which had advanced south of Newfoundland. The high area over mid-ocean, above referred to, prevented the advance of this storm and finally forced it westward. During the 4th low area I moved from the Bay of Fundy to the west part of the Gulf of Saint Lawrence, and passed thence south of Newfoundland by the morning of the 5th, with pressure falling to about 29.30 (744) and gales of force 7 to 9. The influence of this storm was felt to the Bermudas on the 4th and 5th, where the wind veered from south to west and reached force 3 to 4. On the 6th this storm was central north of the Grand Banks, after which it disappeared north of the region of observation.

On the 5th a storm of considerable energy was central over the North Sea, and it was apparently central in that region on the 6th, with a heavy snowstorm in northern Scotland. On the 7th British pressure was reported lowest over Ireland, and heavy snow fell in parts of England and Ireland. On this date low area III passed north of the Gulf of Saint Lawrence, and a storm appeared central near the Azores. On the 8th a storm was central over the east part of the North Sea, and heavy snow and cold weather were reported over Great Britain. Snow and rain continued in England and Scotland on the 9th. The pressure continued low over the eastern part of the ocean, and on the 11th a storm was apparently central southwest of the Bay of Biscay, whence it probably moved eastward over the Spanish Peninsula by the 13th. On the 14th the pressure was low east of the 35th meridian, and on the following date the pressure fell to 29.10 (739) in Ireland.

On the 16th the pressure continued low over the eastern part of the ocean, the pressure was 29.20 (742) over Ireland, and a heavy gale was reported at Lisbon, Portugal. On the 17th the pressure was lowest west of the British Isles, in about W. 20°; on the 18th a trough of low pressure extended from the Spanish Peninsula to Iceland, and the pressure continued low in those regions until the 23d. On the morning of the 19th a storm appeared central near western Nova Scotia, whence it advanced north of the Grand Banks by the 20th, with a marked display of energy. The pressure continued low along the trans-Atlantic steamship routes west of the 50th meridian during the balance of the month under the influence of low areas IX, X, and XI. The eastward movement of these storms caused low pressure over mid-ocean until the 30th, while over the eastern part of the ocean high pressure prevailed from the 24th until the close of the month.

OCEAN ICE.

No Arctic ice was reported for January, 1892. In January, 1891, 3 large icebergs were observed in N. 46° 30′, W. 52° 46′ on the 28th, and on the 31st patches of soft ice were encountered in N. 45° 50′, W. 59° 20′. In 1890 vast fields of ice and enormous icebergs were reported over and near the Banks of Newfoundland north of the 43d parallel. In 1889 no ice was reported. In January, 1882 to 1888, inclusive, Arctic ice in small quantities was reported east of Newfoundland, but in no case was it sighted south of the 43d parallel.

OCEAN FOG.

The limits of fog belts west of the 40th meridian, as reported by shipmasters, are shown on Chart I by dotted shading. Near the Banks of Newfoundland fog was reported on 17 dates; between the 55th and 65th meridians on 10 dates; and west of the 65th meridian on 2 dates. Compared with the corresponding month of the last 4 years the dates of occurrence of fog east of the 55th meridian numbered 12 more than the average; between the 55th and 65th meridians 1 more than the average; and west of the 65th meridian 5 less than the average. The dense fog noted by shipmasters and reported at stations of the Weather Bureau along the New England, New York, and New Jersey coasts generally attended the advance or passage of general storms.

TEMPERATURE OF THE AIR (expressed in degrees, Fahrenheit).

Many of the voluntary stations do not have standard thermometers or shelters.

The distribution of mean temperature over the United States and Canada for January, 1892, is exhibited on Chart II by dotted isotherms. In the table of miscellaneous meteorological data the monthly mean temperature and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for mean temperature and departure from the normal show, respectively, the average for the several districts. The normal for any district may be found by adding the departure to the current mean when the departure is below the normal and subtracting when above. The monthly mean temperature for regular stations of the Weather Bureau represents the mean of the maximum and minimum temperatures.

The mean temperature was highest over extreme southern Florida, where it was above 65; it was above 50 over the Florida Peninsula, along parts of the immediate Gulf coast, in the lower Colorado and lower Gila valleys, and on the immediate Pacific coast south of the 38th parallel; and was above 40 over the south parts of the south Atlantic and Gulf states, in extreme southern New Mexico, and west of a line traced from east-central Arizona over the west side of the Sierra Nevada Mountain range to northwestern California, and thence northward inside the coast line to Vancouver Island. The mean temperature was lowest in Manitoba and eastern Saskatchewan, where it was below —5; it was below zero at points on the north shore of Lake Superior, in northern Minnesota, and northeastern North Dakota; and was below 20 north of a line traced from southern New Brunswick irregularly south of west to the middle-eastern slope of the Rocky Mountains, thence to southeastern Montana, thence to extreme north-central New Mexico, and thence to western Montana. The mean temperature was also below 20 in an area which occupied the central part of the middle plateau region.

DEPARTURES FROM NORMAL TEMPERATURE.

The mean temperature was above the normal along the Pacific coast, thence eastward over the northern part of the country to the Red River of the North and extreme upper Mississippi valleys, and thence southwestward over the southeast slope of the Rocky Mountains and the east part of the

southern plateau region. The mean values were also above the normal over the north part of the Lake region, in the Saint Lawrence Valley, the Canadian Maritime Provinces, New England, and at points along the immediate Atlantic coast north of the 35th parallel. Over a great part of the middle and southern plateau regions, and from the Lake region to the Gulf and south Atlantic coasts the mean temperature was below the normal. The most marked excess in temperature occurred in Alberta and western Assiniboia, where it exceeded 10, and an excess of more than 5 was noted in the Canadian Maritime Provinces. The greatest deficiency in temperature appeared in an area extending from the south part of the upper lake region southward over the middle Ohio valley to the middle and west Gulf coasts, where the mean readings were more than 4 below the normal.

DEVIATIONS FROM NORMAL TEMPERATURE.

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperature for January for a series of years; (2) the length of record during which the observations have been taken, and from which the normal has been computed; (3) the mean temperature for January, 1892; (4) the departure of the current month from the normal; (5) and the extreme monthly mean for January during the period of observation and the years of occurrence:

State and station.	County.	(1) Normal for the month of Jan.	(2) Length of record.	(3) Mean for Jan., 1892.	(4) Departure from normal.	(5) Extreme monthly mean for January.			
						Highest.	Year.	Lowest.	Year.
Arkansas.		°	Years	°	°	°		°	
Lead Hill	Boone	33.6	10	.....	.....	45.6	1890	24.2	1886
California.									
Sacramento	Sacramento	46.3	26	48.8	+ 2.5	52.7	1873	38.4	1890
Connecticut.									
Middletown	Middlesex	25.1	24	.....	.....	33.7	1890	17.3	1888
Florida.									
Merritts Island	Brevard	62.6	10	60.6	— 2.0	69.8	1882	55.4	1886
Georgia.									
Forsyth	Monroe	48.2	18	44.2	— 4.0	59.4	1880	40.8	1884
Illinois.									
Peoria	Peoria	24.6	36	21.4	— 3.2	40.9	1880	13.5	1857
Riley	McHenry	18.0	36	14.6	— 3.4	33.2	1880	5.5	1875
Indiana.									
Vevay	Switzerland	31.4	26	26.8	— 4.6	47.2	1880	23.0	1884
Iowa.									
Cresco	Howard	9.8	20	10.7	+ 0.9	26.1	1880	— 1.3	1883
Monticello	Jones	16.5	23	13.8	— 2.7	32.9	1880	6.0	1883
Logan	Harrison	18.7	18	18.7	0.0	34.4	1880	7.1	1886
Kansas.									
Lawrence	Douglas	26.7	29	24.0	— 2.7	41.2	1880	14.3	1886
Wellington	Sumner	25.9	13	.....	.....	40.4	1880	17.6	1886
Louisiana.									
Grand Coteau	Saint Landry	52.3	9	47.2	— 5.1	64.0	1890	47.2	1892
Maine.									
Orono	Penobscot	15.3	18	22.2	+ 6.9	24.7	1889	8.2	1875
Maryland.									
Cumberland	Allegany	30.0	33	30.0	0.0	40.7	1890	19.6	1865,'67
Massachusetts.									
Amherst	Hampshire	23.6	56	25.2	+ 1.6	32.3	1889	13.5	1857
Newburyport	Essex	24.5	15	.....	.....	33.1	1880	13.7	1857
Somerset	Bristol	27.1	19	30.9	+ 3.8	35.7	1880	19.4	1888
Michigan.									
Kalamazoo	Kalamazoo	22.1	16	21.8	— 0.3	36.0	1880	14.0	1881
Thornville	Lapeer	22.6	15	20.0	— 2.6	35.6	1880	15.6	1881
Minnesota.									
Minneapolis	Hennepin	8.8	27	9.5	+ 0.7	23.2	1880	— 4.4	1875
Montana.									
Fort Custer	Custer	10.7	12	20.6	+ 9.9	28.6	1891	2.2	1886
New Hampshire.									
Hanover	Grafton	17.5	54	21.5	+ 4.0	36.5	1838	6.8	1857,'88
New Jersey.									
Moorestown	Burlington	29.6	28	29.4	— 0.2	40.1	1890	22.2	1867
South Orange	Essex	28.9	21	27.7	— 1.2	37.6	1880	23.8	1884
New York.									
Cooperstown	Otsego	20.4	38	20.3	— 0.1	31.6	1880	10.3	1857
Palermo	Oswego	20.9	38	.....	.....	29.4	*	11.6	1888
North Carolina.									
Lenoir	Caldwell	36.3	20	35.8	— 0.5	46.5	1890	30.2	1882
Ohio.									
N'th Lewisburgh	Champaign	27.6	60	23.4	— 4.2	41.0	1880	14.0	1856,'57
Wauseon	Fulton	23.3	22	19.2	— 4.1	37.7	1880	12.2	1875
Oregon.									
Albany	Linn	37.6	14	38.3	+ 0.7	43.8	1887	22.8	1868
Eola	Polk	37.2	21	37.6	+ 0.4	42.7	1874	29.7	1875
Pennsylvania.									
Dyberry	Wayne	21.2	27	21.4	+ 0.2	31.6	1890	13.9	1865
Grampian Hills	Clearfield	23.2	27	21.9	— 1.3	35.0	1880	16.1	1867
Wellsborough	Tioga	25.7	12	22.0	— 3.7	35.8	1890	19.1	1884
South Carolina.									
Statesburgh	Sumter	45.6	10	42.2	— 3.4	54.6	1890	39.0	1886
Tennessee.									
Austin	Wilson	37.3	23	32.5	— 4.8	53.1	1880	28.2	1884
Texas.									
New Ulm	Austin	50.7	18	45.4	— 5.3	63.7	1880	34.8	1875
Vermont.									
Strafford	Orange	16.3	18	19.1	+ 2.8	25.4	1889	6.9	1888
Virginia.									
Birdsnest	Northampt'n	39.9	23	38.9	— 1.0	49.6	1890	33.7	1881
Washington.									
Fort Townsend	Jefferson	38.0	20	38.5	+ 0.5	55.4	1888	29.6	1869
Wisconsin.									
Madison	Dane	17.1	29	13.9	— 3.2	33.6	1880	4.1	1875

* 1863, 1880, and 1890.

YEARS OF HIGHEST MEAN TEMPERATURE FOR JANUARY.

At Los Angeles, Cal., 15 years' record, the current month was the warmest January on record. The mean temperature at that station was 3.6 above the normal, and 0.8 above the highest mean previously reported for January, noted in 1891. The highest mean temperature for January occurred from western Minnesota to the north Pacific coast in 1891; along the Atlantic and east Gulf coasts, and on the southeast slope of the Rocky Mountains in 1890; over the middle and northern plateau regions in 1887; and from the Alleghany Mountains over the Lake region, the Ohio and Mississippi valleys, the middle-eastern slope of the Rocky Mountains, and the west Gulf coast in 1880.

YEARS OF LOWEST MEAN TEMPERATURE FOR JANUARY.

The lowest mean temperature for January was noted from the California coast over Nevada and eastern Oregon in 1890; on the New England coast, and in an elongated area extending from the north Pacific coast to Lake Michigan in 1888; from the southeast slope of the Rocky Mountains and east Kansas to the south Atlantic coast in 1886; and on the middle-eastern slope of the Rocky Mountains in 1875.

In 1890, when the mean temperature was the highest ever noted for January along the Atlantic and east Gulf coasts and on the southeast slope of the Rocky Mountains, it was the lowest recorded for that month in California, Nevada, and eastern Oregon.

MAXIMUM TEMPERATURE.

At Fort Assinaboine, Mont., Valentine, Nebr., Concordia, Kans., and Escanaba, Mich., the maximum temperature for the current month was the highest ever reported for January during the respective periods of observation by amounts varying from 1 at Concordia, Kans., to 5 at Valentine, Nebr.

The maximum temperature was above 80 over the southern half of the Florida Peninsula, in the lower Rio Grande valley, and at Los Angeles, Cal. Reports of voluntary observers show maximum temperature above 90 in the Colorado Desert, southeastern California, and a reading of 90 was noted at Fort Ringgold, Tex. The lowest maximum temperature was reported from north New England over the north and west parts of the Lake region, the upper Mississippi valley, Minnesota, and North Dakota, where it was below 50. The maximum temperature was also below 50 over a great part of the middle and northern plateau regions.

MINIMUM TEMPERATURE.

Exceptionally low minimum temperatures for January were not reported. The minimum temperature was below zero north of a line traced from the Maine coast irregularly westsouthwest to west-central Texas, thence over northern Arizona and southern Nevada, and thence irregularly northward over Oregon and Washington. The lowest temperature was noted in the valley of the Red River of the North, and in northern North Dakota and eastern Montana, where it was below —40, and a reading of —45 was recorded at Miles City, Mont., on the 18th. The highest minimum temperature, 53,

was noted at Key West, Fla., and the minimum reading was 40 at San Francisco, Cal.

LIMITS OF FREEZING WEATHER.

The southern limit of freezing weather is shown on Chart V by a line traced over the Florida Peninsula west-southwest from Jacksonville. The western limit of freezing weather is shown by a line traced along the immediate Pacific coast north of the 41st parallel, and thence over the central valleys of California to the lower Colorado valley.

RANGES OF TEMPERATURE.

The greatest daily ranges of temperature are shown in the table of miscellaneous meteorological data. The greatest monthly ranges occurred in an area which extended from eastern Montana over eastern Wyoming and northwestern Nebraska, where they exceeded 90. From that region they decreased eastward to less than 50 at points on the middle Atlantic and south New England coasts; southeastward to less than 30 in extreme southern Florida; southward to less than 50 on the immediate Gulf coast; and westward to less than 30 on the middle and north Pacific coasts.

PERIODS OF HIGH TEMPERATURE.

The month opened with high temperature east of the Mississippi River, and at points in the upper Mississippi valley and the Lake region and thence to the east Gulf coast the maximum readings were the highest noted for the month. The warmer condition extended over the northeastern states during the 2d, and a marked fall in temperature occurred in the Atlantic coast states south of the 40th parallel. On the 2d the temperature rise was 10 to 15 in the Northwest, and on the 3d the 24-hour rise was 20 to 30 in the Red River of the North Valley. On the 4th the warm wave reached the south Atlantic states, a temperature rise of more than 20 being noted in that district. On the 3d and 4th the highest temperature of the month was noted over the west part of the middle plateau region. The morning report of the 7th showed a 24-hour temperature rise of 20 to 30 over the Dakotas; the warmer condition reached the middle and south Atlantic states on the 8th; and the temperature rose 10 to 15 on the Gulf coast during that date.

The morning of the 11th a 24-hour temperature rise of 20 to 30 was noted over the Lake region, and this condition extended to the Atlantic coast during the 12th. From the 15th to 17th a warm wave moved from the northeast slope of the Rocky Mountains to the Atlantic coast. A well-defined warm wave advanced from Alberta to the Atlantic coast from the 18th to 21st, with a temperature rise of more than 50 in Montana on the 19th, a rise of 40 to 60 from the middle-eastern slope of the Rocky Mountains over the Lake region on the 20th, and a rise of 10 to 20 in the Atlantic coast states on the 21st. A warm wave advanced from Manitoba to the northeastern districts from the 21st to 23d. On the 23d a marked temperature rise was noted in the Red River of the North Valley and over the western Lake region, with the highest temperature of the month, 43, at Saint Vincent, Minn., whence the warm wave advanced to the middle Atlantic and New England states by the 25th, where the 24-hour increase in temperature was 10 to 20.

The highest temperature of the month was reported generally along the middle and south Pacific coasts from the 20th to 24th, and over Utah and eastern Arizona on the 25th and 26th. On the 26th the 24-hour temperature rise exceeded 20 in Utah. The warmer condition extended eastward, with an increase in temperature of 10 to 30 over the Lake region during the 27th, and reached the Atlantic coast on the 28th. The morning report of the 29th showed a 24-hour temperature rise of 14 to 16 on the north Pacific coast; the highest temperature of the month was noted at Olympia, Wash., and Portland, Oregon, and an increase in temperature was noted on that date over the Rocky Mountain and plateau regions. During the 30th the warmer condition extended over the upper lake region, with a temperature rise of 10 to 20 in the Valley of the Red River of the North, and the highest temperature of the month in the middle and southern Rocky Mountain regions. On the 31st the warm wave reached the Alleghany Mountains; the temperature rise was 10 to 20 in the middle and upper Mississippi valleys and the Lake region, and the highest temperature of the month was reported at points between the middle Mississippi river and the Rocky Mountains.

PERIODS OF LOW TEMPERATURE.

The month opened with temperature below zero over Minnesota, the Dakotas, and the British Northwest Territory. During the 2d the cold wave advanced to the Atlantic coast with a temperature fall of more than 30 in the Atlantic coast states, and freezing weather to northern Florida by the morning of the 3d. The morning of the 6th the temperature was below zero in the Dakotas and the Red River of the North Valley. On the 7th the temperature fell decidedly from the Lake region to the south Atlantic coast, with freezing weather to the east Gulf coast, and the lowest temperature of the month in eastern Tennessee and the east part of the Gulf States. On the 8th a cold wave overspread the Northwest, and reached the central valleys on the 9th, with a temperature fall of more than 20 in Texas and the northern Lake region, and by the evening report the cooler condition had reached the Atlantic coast.

On the 10th and 11th a cold wave overspread the middle and northern plateau regions, eastern Oregon, and Washington, with a 24-hour temperature fall of more than 20 over the middle Rocky Mountain region, and the lowest temperature of the month over the northern plateau and the east part of the middle plateau. During the 12th the cold wave advanced over the Mississippi Valley and the Lake region. The cooler condition did not reach the south Atlantic coast states until the 14th, and extended over the middle Atlantic and New England states the night of the 14–15th. A 24-hour temperature fall of more than 20 was noted in the Northwest the morning of the 16th, and the cold wave advanced to the lower Missouri valley and the western Lake region during the 17th, with a temperature fall of 20 to 30, and zero temperature to Kansas. The a. m. report of the 18th showed a further fall of 20 to 30 in eastern Montana, and the lowest temperature of the month was reported over the Dakotas and eastern and northern Montana, a reading of —45 being recorded at Miles City, Mont.

The cold wave reached New York and western New England on the 19th, and overspread the entire country east of the Mississippi River and the eastern Lake region by the a. m. report of the 20th, with a 24-hour temperature fall of more than 40 in eastern New England, and a decrease of 10 to more than 20 in the middle and south Atlantic and east Gulf states. The lowest temperature of the month was reported generally from the Mississippi River to the middle and southern Rocky Mountain slopes on the 19th, and from the eastern Lake region to the east Gulf coast on the 20th. A cold wave of marked severity advanced from the Red River of the North to northern New England and the Canadian Maritime Provinces from the 22d to the 24th, with the lowest temperature of the month, —1, at Eastport, Me., on the 24th. The lowest temperature of the month occurred at points along the middle and north Pacific coasts on the 23d and 24th, and during the 24th the temperature fall exceeded 20 in Assiniboia. During the 25th the cold wave extended over the Lake region, the temperature fall being more than 30 in the Lake Superior district, and reached the Atlantic coast during the 26th, with a temperature fall of more than 30 in New England and Virginia. On the 27th the lowest temperature of the month was noted along the middle Atlantic, North Carolina, and New England coasts.

FROST.

The first heavy frost of the season was reported as follows: 4th, Jupiter, Micco, and Titusville, Fla. 14th, Galveston, Tex. 23d, Corpus Christi, Tex. The first light frost of the season

was observed at Jupiter, Fla., on the 3d; damage was caused to tender plants. Tender vegetation was injured by frost at Tampa, Fla., on the 3d. The heavy frost of the 4th caused considerable damage in the region about Titusville, Fla., the damage being largely confined to the west shore of the Indian River. At Jupiter, Fla., pineapples were protected in many places by the smoke of fires which were kept up for that purpose. Frosts from the 7th to 9th were very destructive to vegetation and pineapples about Jupiter. The observer reports that owing to the timely cold-wave warning every precaution was taken to prevent injury to crops. Many persons kept fires burning for several nights, thereby lessening the damage to a great extent. Ice formed on the 8th at Jacksonville, Fla. On the 13th ice $\frac{3}{8}$ inch in thickness formed at Corpus Christi, Tex., and all vegetables were reported killed. The frost of the 13th, 16th, and 19th damaged wheat about Brady, Tex. The frost of the 14th and 19th killed vegetation about Galveston, Tex.

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada for January, 1892, as determined from the reports of about 2,000 stations, is exhibited on Chart III. In the table of miscellaneous meteorological data the total precipitation and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for precipitation and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal and subtracting when above.

In January the monthly precipitation is usually greatest on the extreme north Pacific coast, where it exceeds 10.00. At Neah Bay, Wash., 9 years' record, the normal amount for the month is 17.31. On the immediate Pacific coast north of the 40th parallel, and along the line of the Central Pacific Railroad crossing the summit of the Sierra Nevada Mountains, the average precipitation for January exceeds 8.00, and it is 4.00 to 6.00 generally along the Pacific coast north of the 37th parallel. The greatest precipitation over the eastern part of the country is noted at Hatteras, N. C., where the normal amount is 6.33; it is more than 4.00 along the immediate New England and middle Atlantic coasts, over east-central Florida, generally over districts south of the Ohio River and east of Texas, in central Utah, and in the mountains east of San Diego, Cal. From the Lake Superior region and the British Northwest Territory to the Rio Grande, Gila, and lower Colorado valleys the normal precipitation is less than 2.00, except over a part of the northern plateau and over the central part of the middle plateau; and from Minnesota, North Dakota, and eastern Montana to the Rio Grande River the normal amount is less than 1.00.

In January, 1892, the monthly precipitation was greatest at Montgomery, Ala., where it was 17.78; it exceeded 10.00 in south-central North Carolina, western South Carolina, northern Georgia, east-central and southeastern Alabama, extreme western Florida, southern Mississippi, south-central Louisiana, along the California coast between San Francisco and Eureka, and at Neah Bay, Wash.; and exceeded 8.00 on the west coast of Nova Scotia. Over a great part of the Rocky Mountain and plateau regions, from the west Lake Superior region and the extreme upper Mississippi valley to the northeastern slope of the Rocky Mountains, and in the Rio Grande Valley the monthly precipitation was less than 1.00. Over a part of the northern plateau the amount ranged from 2.00 to 6.00, and in central Arizona and central and northwestern Colorado it exceeded 2.00.

DEPARTURES FROM NORMAL PRECIPITATION.

The monthly precipitation was in excess of the January average in the Saint Lawrence Valley and the Canadian Maritime Provinces, generally in the Atlantic coast and east Gulf states, from the central upper lake region to Missouri, and from western Nebraska and western South Dakota to Arizona. The greatest excess in monthly precipitation was 12.80, at Montgomery, Ala.; the excess was 5.00 at Mobile, Ala.; it was more than 3.00 at Pensacola, Fla., Augusta, Ga., Baltimore, Md., and Yarmouth, N. S.; and was more than 2.00 along the west coast of the Gulf of Saint Lawrence, in the District of Columbia and a great part of Maryland, and from southern North Carolina to the middle Gulf coast.

The monthly precipitation was deficient on the Pacific coast, over the northern plateau and the north part of the middle plateau, from the northeast slope of the Rocky Mountains to the west Lake Superior region, in the middle Missouri valley, on the southeast slope of the Rocky Mountains, from the west Gulf states over the Ohio Valley and the south part of the Lake region, at points along the immediate south New England and middle and south Atlantic coasts, and over the south part of the Florida Peninsula. The most marked deficiency was noted at Olympia and Fort Canby, Wash., and Hatteras, N. C., where it was more than 4.00, and the deficiency was more than 2.00 over a great part of the Pacific coast, along the Mississippi and Ohio rivers from Memphis, Tenn., to Louisville, Ky., and on the extreme eastern coast of North Carolina.

Considered by districts the average percentage of the normal in districts where the precipitation was deficient was about as follows: southern plateau region, 230; east Gulf states, 175; upper Mississippi valley, 153; middle Atlantic states, 133; Missouri Valley, 121; south Atlantic states, 116; northeast slope of the Rocky Mountains, 115; New England, 114; upper lake region, 110; northern plateau region, 108. In districts where the precipitation was deficient the percentage of the normal was about as follows: Key West, Fla., 28; extreme northwest, 50; south Pacific coast, 51; southeast slope of the Rocky Mountains, 52; middle-eastern slope of the Rocky Mountains, 56; middle Pacific coast, 62; north Pacific coast, 64; Ohio Valley and Tennessee, 70; west Gulf states, 74; lower lake region, 89. The monthly precipitation averaged normal for the middle plateau region.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The following table shows for certain stations, as reported by voluntary observers, (1) the average precipitation for January for a series of years; (2) the length of record during which the observations have been taken and from which the average has been computed; (3) the total precipitation for January, 1892; (4) the departure of the current month from the average; (5) and the extremes for January during the period of observation and the years of occurrence:

State and station.	County.	(1) Average for the month of Jan.	(2) Length of record.	(3) Total for Jan., 1892.	(4) Departure from average.	(5) Extremes for Jan.			
						Greatest.		Least.	
						Am't.	Year.	Am't.	Year.
Arkansas.		*Inches*	*Years*	*Inches*	*Inches.*	*Inches.*		*Inches*	
Lead Hill	Boone	3.02	10	.....	.....	7.37	1890	1.33	1887
California.									
Sacramento	Sacramento	3.78	38	1.78	—2.00	15.04	1862	0.19	1889
Connecticut.									
Middletown	Middlesex	4.41	30	.....	.....	9.24	1891	1.45	1876
Florida.									
Merritts Island	Brevard	3.61	14	0.42	—3.19	10.45	1878	0.42	1892
Georgia.									
Forsyth	Monroe	5.26	18	9.59	+4.33	10.08	1883	2.22	1880
Illinois.									
Peoria	Peoria	1.73	34	1.25	—0.48	4.27	1862	0.20	1872
Riley	McHenry	1.98	41	1.73	—0.25	5.96	1876	0.45	*